What is claimed is:

1.   A method of soft handoff of a mobile terminal in an Internet Protocol (IP) wireless network, said method comprising the steps of:

5   said mobile terminal creating a multicasting group of multicast network interfaces; and

          simultaneously communicating at the IP level between said multicast network interfaces and a plurality of base stations via separate channels between said mobile terminal 10 and said plurality of base stations.

2.   The method in accordance with claim 1 further comprising dynamically adjusting the plurality of multicast network interfaces within said multicasting group.

15 3.   The method in accordance with claim 2 wherein said step of dynamically adjusting comprises said mobile terminal issuing a joint message from a particular multicast network interface in order to cause said particular multicast network interface to be included in said multicasting group.

20 4.   The method in accordance with claim 2 wherein said step of dynamically adjusting comprises said mobile terminal issuing a leave message to a particular multicast network interface in order to cause said particular multicast network interface to be removed from said multicasting group.

5.   The method of claim 2 wherein said step of dynamically adjusting is performed in accordance with at least one of error rate, signal strength, and network constraints.

5   6.   The method of claim 1 further comprising the step of utilizing a multicasting agent associated with the IP wireless network to assign an IP multicasting address to said mobile terminal.

7.   The method of claim 1 further comprising the steps of:

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extracting frames from multicast messages, each frame including a multicast message portion and a header portion; and

performing IP packet aggregation for a plurality of multicast message portions

15   in order to produce a master IP data packet.

8.   The method in accordance with claim 1 further comprising the step of said mobile terminal tracking CDMA IP pilot signals from a base station to determine the signal strength of a particular communication channel from said base station.

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9.   The method in accordance with claim 8 wherein said step of tracking CDMA IP pilot signals includes the steps of:

classifying a CDMA pilot signal as a candidate CDMA pilot signal if a signal strength associated with the CDMA pilot signal exceeds a predetermined threshold, otherwise classifying the CDMA pilot signal as unacceptable; and

5   classifying said CDMA pilot signal as an active CDMA pilot signal if a base station associated with said candidate CDMA pilot signal indicates that the particular communication channel associated with the candidate CDMA signal is capable of maintaining an IP level communication from the mobile station through the base station to the network.

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10.   The method in accordance with claim 1 wherein said simultaneous communication includes the step of transmitting information in a forward direction to said mobile terminal by broadcasting the information as a multicast message from the plurality of said base stations to the multicast network interfaces in said multicasting group created by

15   said mobile terminal.

11.   The method in accordance with claim 1 wherein said simultaneous communication includes the step of transmitting information in a reverse direction from said multicast network interfaces in said mobile terminal to the wireless network in response to a

20   sender of a multicast message to the mobile terminal.

12.   A system for soft handoff of a mobile terminal in a wireless network, said system comprising

a plurality of base stations connected to the wireless network,

a mobile terminal including a plurality of multicast network interfaces, and

5   a processor including a medium encoded with processing instructions to

create a multicasting group of a number of said plurality of multicast network interfaces, and

10   cause simultaneous communication at the IP level over separate communication channels between said mobile terminal and a number of said plurality of base stations.

13.   The system in accordance with claim 12 wherein said medium is further

15   encoded with processing instructions to dynamically adjust the ones of said plurality of multicast network interfaces included in said multicasting group.

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